



**Africa Renewable Energy
Manufacturing Initiative**

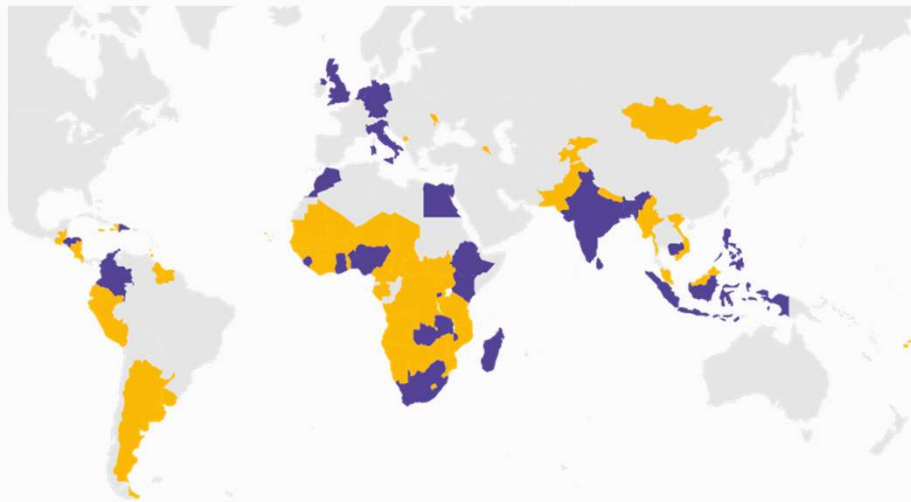
Programme Overview

CONFIDENTIAL AND PROPRIETARY
Any use of this material without specific permission is strictly prohibited



Introduction

SEforALL is an independent organization with strong links to the United Nations. We use data, knowledge, partners and finance to achieve just, equitable and sustainable energy transitions that ensure every person, everywhere can live a dignified and productive life on a healthy planet.



● Countries supported in the last 10 years

● Countries supported in 2021



Africa REMI aims to synergize resources from South-South Cooperation to accelerate the creation of green manufacturing capacity in Africa as an enabler of the transition; as well as income generation. This will be achieved through capacity building, knowledge transfer, policy dialogues, advocacy as well as pilot projects – to empower African nations to achieve low-emission development and carbon neutrality in the long term.

OUR PARTNERS

**Bloomberg
Philanthropies**

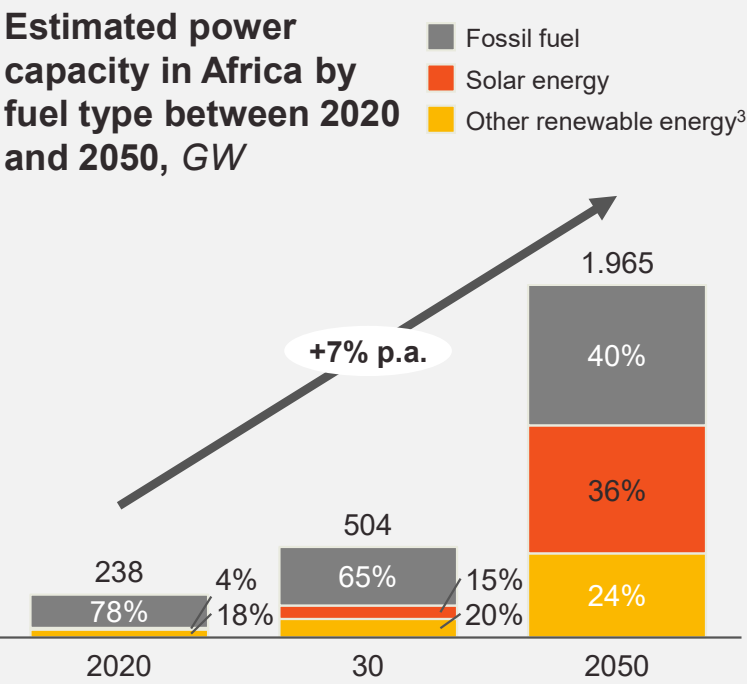


CREIA

The use of renewable energy in Africa is expected to increase, driven mainly by the growing demand for power across the continent



Estimated power capacity in Africa by fuel type between 2020 and 2050, GW



Growing power demand driven by industrialization and urbanization across Africa

Renewables are expected to become the main power source on the continent due to economic, energy security and environmental drivers

A. Decreasing costs of renewable energy products

Unsubsidized solar PV LCOE¹ has **decreased by ~90%** from \$400/MWh in 2011 to 41/MWh in 2022

B. Increased demand for environment-friendly energy sources

Calls for reduction of CO₂ emissions and net-zero commitments

Depletion of fossil fuels

C. Energy access

~50% of the population within Sub Sahara Africa do not have access to electricity². This has driven installations for solar distributed generation to increase access

Two major manufacturing opportunities for Africa



1

Solar PV expected to become the main energy source in Africa – creating opportunities for local manufacturing



2

Energy storage need (due to a large variable RES in the grid), as well as access to critical minerals, creates an opportunity to develop the battery value chain in Africa











1. LCOE refers to the Levelized cost of electricity which is a measure of the average net present cost of electricity generation over a lifetime. The LCOE average cost provided refers to Crystalline Utility-Scale Solar
2. ~570 million people out of SSA's population of 1.17 billion people do not have access to electricity
3. Other renewable energy sources include wind, hydropower and biogas

Source: Lazard; Enerdata; METGroup; International Energy Agency

Solar PV and battery manufacturing opportunities have been identified across six African countries while prospects to support other technologies such as EVs are emerging



■ Solar PV assembly and battery materials refining ■ Solar PV assembly ■ Battery materials refining — Shortlisted countries

	Country	Comments
Solar PV assembly and battery materials refining <div>4</div> <div></div>	 Morocco	Morocco presents competitive opportunities in both solar PV –cell manufacturing and module assembly- and the refining of cobalt for NMC batteries as it holds reserves and is already engaged in refining the mineral
	 South Africa	South Africa presents competitive opportunities in both solar PV –cell manufacturing and module assembly- and the refining of manganese for NMC batteries as it holds reserves and is currently mining the mineral. There is also a limited opportunity for packaging BESS
Solar PV assembly <div>3</div> <div></div>	 Kenya	Kenya is a rapidly industrializing country with potential to manufacture PV panels for the East African market
	 Egypt	Egypt scores 1 st on aggregated feasibility, market potential and competitiveness for solar cell manufacturing and the assembly of solar modules
	 Nigeria	Nigeria has ambitious electrification and decarbonization objectives, driving solar PV use in the country
Battery materials refining <div>1</div> <div></div>	 Ghana	Ghana presents an opportunity for lithium refining as it is currently mining the mineral



Engagements with experienced manufacturers of RE products highlight four main barriers to expanding operations into African countries

Absence of necessary production factors

- Inadequate technical manufacturing capabilities
- Insufficient education and training programmes to build firm-level and human capacity
- Constrained infrastructure, particularly cost and unreliability of electricity and logistics

Constrained regulatory development and incentive structure

- Limited policy and regulatory frameworks to support localization of renewable energy manufacturing
- Absence of supply- and demand-side incentives to encourage local production



Weak supply chain

- Presence of import barriers including high tariffs and taxes on components and equipment
- Absence of strong adjacent industries related to solar or battery manufacturing

Concerns on the local market potential

- Absence of incentives to boost local demand for renewable products
- Scale of domestic renewable energy markets not large enough in most countries

The following levers, when implemented across public and private sector players, will enable the scale up of RE manufacturing in Africa



Capability building

Assist organizations and individuals to strengthen their capabilities through technical assistance, training, and upskilling tools



Knowledge

Discover, develop, interpret and share knowledge throughout the sector



Advocacy

Support decision-making institutions in crafting and implementing policies that provide a conducive investment environment



Convening

Provide a global platform to disseminate policies, financing models and global best practices for RE Manufacturing



Pilot

Provide end-to-end support to domestic RE companies looking to scale/pivot into RE Manufacturing

Based on the gaps identified, Africa Renewable Energy Manufacturing Initiative has prioritized four core programmes to drive scale up of RE manufacturing in Africa



Gaps in Africa RE manufacturing



Absence of necessary production factors



Weak local supply chain



Constrained regulatory development and incentive structure



Concerns on the local market potential

Intervention programmes driven by Africa REMI programme

Policy: Enable the set-up of a best-in-class business environment

Inform, train, and support African government officials to accelerate and bolster their policymaking for “Africa for Africa” RE manufacturing

Capacity: Build Africa’s future RE manufacturing workforce

Sponsor/Facilitate the training and career development of RE engineers and technicians in Africa to develop skillsets in solar PV, battery refinery/assembly and electric mobility

Anchor: Attract mature RE manufacturers at scale to Africa

Provide domestic RE manufacturers with access to established international partners and cultivate a robust RE manufacturing ecosystem in Africa


Accelerator: Incubate Africa RE manufacturing projects

Provide end-to-end project facilitation, access to finance and support for RE/adjacent manufacturing projects in Africa

The four programmes provide support to public and private sector players in Africa as well as multinational companies looking to invest in scaling up RE manufacturing on the continent



Africa Renewable Energy Manufacturing Initiative

Levers	 <div>Policy</div> <div>Advocacy, Capability building, Knowledge, Convening</div>	 <div>People</div> <div>Advocacy, Capability building, Knowledge, Convening</div>	 <div>Accelerator</div> <div>Knowledge, Advocacy, Pilot, Convening</div>	 <div>Anchor</div> <div>Knowledge, Advocacy, Pilot, Convening</div>
	<ul style="list-style-type: none"> • Design and implement policies to stimulate local and regional RE product demand and competitiveness for locally manufactured components • Develop country-focused policy landscape guide for renewable energy and green manufacturing • Conduct assessment of regional demand profile to support investment decision making on renewable energy manufacturing 	<ul style="list-style-type: none"> • Develop relevant curriculum and training programmes through partnerships with academic institutions, and industry associations • Develop a programme on standards and quality assurance focusing on manufacturers and testing/certification agencies 	<ul style="list-style-type: none"> • Provide end-to-end support to domestic RE companies looking to scale • Provide Transaction facilitation support and link RE companies with funds and technical assistance programmes. 	<ul style="list-style-type: none"> • Facilitate business connections between African companies & established international manufacturers • Develop country-specific manufacturing investment guide, which defines landscape for setting up local manufacturing facilities across African countries
	<ul style="list-style-type: none"> • Conduct policy workshops for public officials, investment board authorities and other stakeholders on holistic industrial policy design to support renewable energy manufacturing • Convene high level dialogue across various platforms to showcase success stories of local manufacturing and highlight policy levers needed to facilitate investments and maximize benefits 	<ul style="list-style-type: none"> • Facilitate industry linkages for academia for internships and apprenticeship training programmes • Develop online resource platforms on renewable energy manufacturing 	<ul style="list-style-type: none"> • Provide an innovative financing platform that brings together various financing partners to develop tailored blended finance models for RE manufacturing projects in Africa 	<ul style="list-style-type: none"> • Provide validated business catalogue of RE manufacturers across Asia & Africa • Facilitate technical assistance programs for global and local manufacturers to gain more insight into RE opportunities in Africa

Africa REMI aims to achieve significant impact in RE manufacturing in Africa through implementation of the four core programmes



Impact to be achieved through four programmes

10

Scaled RE
factories

3000

Trained RE technicians

500

Qualified future
leaders

Facilitated financing and investments into Africa for green
manufacturing

